

Governance

CICE Consortium

The CICE Consortium has been formed in order to coordinate sea-ice modeling across a number of related world-wide efforts, each supported by a Consortium Sponsor with specific requirements. The organizational structure shown in Figure 1 is designed to ensure that sponsor requirements are met, and to realize the efficiencies offered by a coordinated effort. The former is the responsibility of the formal governance described here. It covers the upper two levels, an Executive Oversight Board (EOB) and an Executive (blue), as well as the Sponsors.

Figure 1 contains the Organizational (Org) Chart proposed for the Consortium structure, showing the Executive Oversight Board in tan, Executive in blue, and the six Teams with Team Leads in green. A committee consisting of the Executive and Team Leads acts as a science oversight/advisory board and also functions as a change control board for the code.

Sponsors

Sponsors are representatives of institutions, agencies or projects making substantial direct financial or in-kind contributions toward achieving the Consortium's goals and purposes. They agree on the terms reference and take responsibility for agency-level oversight, policy authority on behalf of their organizations, and coordination of resources. Meetings of sponsors will be convened as needed and chaired by Dorothy Koch, DOE.

Executive roles:

- Financially commit to Consortium Members for at least the next fiscal year
- Appoint representatives to the Executive Oversight Board
- Determine minimum requirements to be a Consortium Sponsor
- Coordinate Sponsor contributions and notify Lead Coordinator of any upcoming changes

Advisory roles:

- Advise EOB on funding issues and opportunities relevant to continued progress
- Approve EOB reports of Consortium progress and plans
- May attend Executive Oversight Board meetings

Executive Oversight Board

The EOB functions as an interface between the Executive and both the Sponsors and the broader CICE community. It reports to the Sponsors and is responsible for advocating for their financial support to maintain the Consortium. It oversees Consortium management to insure continuity of Consortium functions for the benefit of the CICE user community. Conversely, EOB members are responsible to communicate Sponsor requirements to the Executive. Each

Sponsor (or its delegate) may nominate at most two EOB members to represent institutional or project level management.

Executive roles:

- Selects a chair from its ranks
- Appoints the Lead Coordinator and Task Team Leads
- Communicates Sponsor objectives and constraints to the Lead Coordinator
- Approves a Consortium plan as developed by the Lead Coordinator and Team Leads
- Oversees and approves Consortium agreements with sea ice model developers or users that include model use prior to public release
- Approves any modifications needed to Consortium agreements
- Arbitrates disputes over science decisions and other matters brought forward by the Lead Coordinator
- May call for and facilitate external reviews

Advisory role:

- Solicits periodic briefs from Lead Coordinator on the overall progress, plans and needs of the Consortium, as well as on any specific issues requested
- Reports at least annually to Sponsors on the state of the Consortium
- Advises Lead Coordinator on the overall direction of the Consortium

Executive

The Consortium Executive (Fig. 1 blue) shall consist of a Lead Coordinator, a Deputy Coordinator and a Lead Software Engineer. Its primary role is to coordinate Sponsor and community contributions to the code, with a view to future Sponsor requirements. To the extent possible, the planning horizon will accommodate the typical three-year proposal cycle for new research as well as operational plans and timelines.

The **Lead Coordinator** is responsible for overall coordination and management of the Task Teams, in consultation with the Executive Oversight Board, and reports to the Executive Oversight Board.

Coordination roles within the Consortium:

- Acts as an interface between the EOB and Task Team Leads
- Briefs the EOB upon request
- Chairs meetings of the Task Team Leads
- Approves decisions made by Task Team Leads
- Clarifies scientific and technical priorities
- Monitors progress against plans
- Ensures timely and appropriate reviews of proposed code contributions
- Delegates tasks as needed

Planning and Outreach roles:

- Leads development of a Consortium Plan that includes goals, tasks, milestones and required resources
- Organizes periodic user workshops to provide a relaxed, informal forum for presentation of recent progress, discussion of problems and constructive feedback from users, and to facilitate the development of collaborations between groups
- Maintains the visibility of the model and software before the climate science community and other such organizations as necessary

The **Co-Lead Coordinator** assists the Lead Coordinator as needed for all activities, is included in meetings of the committee of Team Leads, and is potentially a successor for the Lead Coordinator.

The **Lead Software Engineer** provides broad oversight of the code to ensure compatibility and software best practices, and software consulting support for team members as needed. The Software Engineer will coordinate closely with the Lead Coordinator and Team Leads, and generally speaking will not decide what scientific capabilities go into the code, but rather ensure that the software works. The Software Engineer will participate in meetings of the committee of Team Leads. An early-career technician or scientist could be added to help with code management tasks. Particular SE roles include

- coordinating changes to code infrastructure,
- assisting in the design of the testing framework, including subcomponent functionality testing
- verifying contributor tests (from other model configurations) as needed
- if tests fail, contacting the appropriate Team Lead to have the issue addressed
- serving as gatekeeper for the trunk/master branch, in consultation with the Lead Coordinator

Review and Amendment

This document will be reviewed two years from its effective date, and renewed or replaced to ensure that the governance and management structure of the Consortium remain relevant and support its goals and purposes. Amendments to this document may be made with the approval of the Executive Oversight Board and the Sponsors.

Document history

21 Jan 2017: Initial draft (based on October 2016 Workshop Report)

9 March 2017: Approved by Team Leads

23 March 2017: Added links to distribution policy, software guidelines

8 May 2017: Restricted scope to upper management of the Consortium

1 July 2017: Dated for public posting

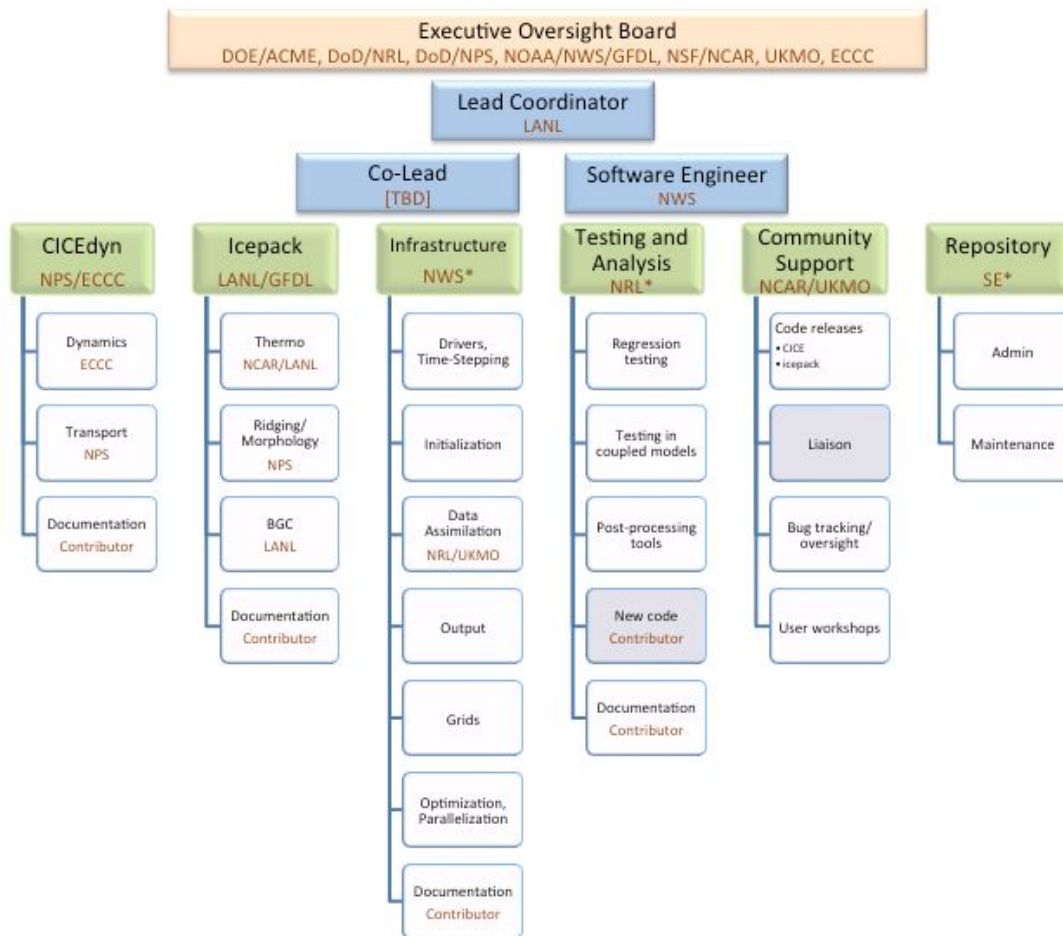


Figure 1. Org Chart. White boxes indicate task areas or responsibilities for each of the six Teams, including code elements, post-processing software, and community interfaces. Member institutions responsible for tasks or teams are shown in red. * indicates that (nearly) all of the Consortium Members are interested in that team’s activities, may already be doing these tasks for CICE at their institutions, and will assist the listed lead institution and/or participate directly in those activities. The higher-level, colored boxes indicate more of an oversight or coordinating role. Responsibility for the “hands-on” work resides mainly in the white task boxes. New code contributions must have already undergone testing, but coordination with other Teams should already also have occurred during the development process, often initially coordinated through the community liaison (grey boxes).